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BENNETT ON PULMONARY TUBERCULOSIS, TWELVE PAGES.

CLINICS.

Statistical Report of the Principal Operations performed in the English Provincial Hospitals during the last Quarter of 1853.—[The subjoined Report includes, we believe, all the principal operations performed during the months of October, November, and December, at the following: The Bristol General, the Cheltenham, the Derbyshire General, the Durham County, the Devon and Exeter, the Hull, the Kent and Canterbury, the Leeds, the Nottingham General, the Sheffield, the South Staffordshire, and the York County Hospitals. We propose to continue the Report quarterly, and shall probably have double the number of hospitals on our next list. With regard to two of the above, the following statements include some operations performed during months a little prior to the period mentioned. This does not, however, in the least detract from the value of the statistics, *all* done during the periods comprised being in each case included:—]

Lithotomy.—Number of cases, 5; all recovered.

Case 1. A boy, aged 5, under the care of Mr. Gregory in the Sheffield Infirmary. He was in good health at the time of the operation, and recovered well afterwards. The calculus was a mulberry one, and weighed 10 grains. *Case* 2. In the Hull Infirmary, under the care of Mr. Craven. The boy was 8 years old, and in good health. Mr. Skey's staff (projecting curve, long extremity, and semilateral groove) was used, and, as Mr. Craven thought, with advantage. Owing to the peculiar dumb-bell form of the stone, some difficulty was encountered in its extraction, and the incision of the prostate had to be enlarged. The patient recovered well. *Case* 3. In the Winchester Hospital, under the care of Mr. Mayo, a healthy boy, aged 5, recovered. *Case* 4. In the Winchester Hospital, under

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the care of Mr. Butler, a healthy boy, aged 7, recovered. *Case* 5. A feeble old man, aged 64, in the Winchester Hospital, under the care of Mr. Wickham. The patient recovered, but the wound was about three months in healing, and some incontinence of urine remained afterwards.

Lithotrity.—One case, after four sittings, has been discharged well. The patient, a man aged 60, was under the care of Mr. Teale, in the Leeds Infirmary.

Herniotomy.—Number of cases, 6; recovered, 1; under treatment, 1; died, 4.

Case 1. A male infant, aged 11 months; hernia congenital, of 10 months' duration, and strangulated 2 days; sac opened. The infant did well for a fortnight, when peritonitis with pleurisy occurred, and death took place on the twentieth day. At *post mortem* the wound was found all but healed; suppuration around the canal of the tunica vaginalis, with acute inflammation of the whole peritoneum, and of both pleuræ. *Case* 2. A boy, aged 6, under the care of Dr. Lunn, in the Hull Infirmary, admitted, after five days' strangulation of the bowel, in an almost moribund condition. Sac opened. He slowly rallied from the collapse in which he was, and ultimately recovered. *Case* 3. A man, aged 38, not subject to hernia before; hernia right, inguinal, strangulated 24 hours; sac opened; death 58 hours after the operation; autopsy, acute and universal peritonitis. *Case* 4. Inguinal hernia; sac opened; death (particulars could not be obtained). *Case* 5. A femoral hernia in a woman in the Kent and Canterbury Hospital, operated on Dec. 30, and remaining under treatment at the time of the report. *Case* 6. A man, aged 55, subject to a right inguinal hernia for 35 years; strangulation 48 hours; sac opened; stricture, a band of omentum; death on third day; autopsy—acute peritonitis, with extensive deposit of lymph, part of the ileum gangrenous.

Amputations.—Number of cases, 30; recovered, 18; under treatment, 8; died, 4.

Thigh, 11; recovered, 5; under treatment, 4; died, 2. Of these, 6 were primary, with 2 deaths, 2 recoveries; 1 in an unfavourable condition, and 1 under treatment doing well; 4 were for old standing disease of the knee-joint, all recovered; and 1 for necrosis of the whole shaft of the tibia, and disease of the ankle-joint, under treatment.

Leg, 12; recovered, 7; died, 2; under treatment, 3. Of these, 2 were primary, with 1 recovery, and 1 still under treatment; 2 secondary, 1 dead, and 1 under treatment; 7 for diseased ankle; 6 recovered, and 1 dead; 1 for conical and painful stump, recovered.

Foot, 1; at the tarso-metatarsal joints, primary, recovered.

Arm, 3, all primary; 2 recovered, 1 still under treatment, but doing well.

Forearm, 3; 2 primary, 1 recovered, 1 under treatment; 1 secondary, under treatment. The last was a case of some interest. The patient, a healthy young man, had received an injury to his hand, in which the palmar arch had been wounded. The surgeon whom he consulted applied pressure and very tight bandages, which induced gangrene of the whole hand, for which latter he was sent to the hospital, where the amputation was performed.

One of the cases in the above list is a double amputation. A railway guard, aged 25, of robust constitution, was admitted, with both legs smashed, into the Nottingham Hospital, under the care of Mr. Eddison. Immediate amputation was performed; on the right above, and on the left below, the knee. In each stump there was much ecchymosis into the posterior flaps, and parts of that of the left afterwards sloughed. At the time our report was received (a fortnight after the operation), the poor fellow, in spite of the very free administration of stimulants, appeared to be sinking.

Deaths.—The following are brief details of the four fatal cases: *Case* 1. A man, aged 53, had his foot contused between the buffers of a railway carriage. There was no fracture or dislocation, but sloughing of the soft parts followed to such an extent that amputation through the leg had to be done on the 14th day. The man sank, apparently from exhaustion, a week afterwards. No lesion of importance was found at the *post mortem*. *Case* 2. A weakly man, aged 47, met with a severe compound fracture of his leg. Primary amputation was performed; imperfect reaction followed, and death from purulent absorption on the 13th day. *Case* 3. A man, aged 63, had his thigh amputated for severe compound fracture of the leg. Extreme collapse was consequent on the operation, and death from exhaustion occurred on the 4th day. *Case* 4. Amputa-

tion of the leg for diseased ankle was performed on a feeble and emaciated man, aged 26. Secondary hemorrhage occurred on the 10th day, and death from exhaustion on the 14th.

Ligature, etc. of Arteries.—Case 1. In the Leeds Infirmary, in a case of popliteal aneurism in which compression treatment had been tried for a month without success, Mr. Samuel Hey applied a ligature to the femoral trunk. The patient, who was a man, aged 58, recovered. *Case* 2. A man was admitted into the Cheltenham Hospital, in consequence of bleeding from the temporal artery. He had sustained a wound of it ten days previously, which had been treated by compression, and over the seat of which a small aneurismal tumour had formed. During one night, bleeding suddenly occurred, and several pints were lost. Mr. Hartley, the House Surgeon, at once cut down on the vessel, and tied both ends, after which the man did well. *Case* 3. In the South Staffordshire Hospital, ligature of both ends of the ulnar artery, on account of wound; successful.

Excision of Bones, etc.—In the Winchester Hospital, by Mr. Butler, removal of the right half of the lower jaw on account of a malignant growth. Mr. Jardine, the House-Surgeon, reports, that the tumour presented the microscopic characters of epithelial cancer, and that it had apparently grown from the periosteum. It had been known to exist for two months. In the course of a month after the operation, and before the wound had healed, it reappeared, and death resulted three months later. No *post mortem* was obtained. In a case of diseased and dilated antrum under treatment in the Leeds Infirmary, Mr. Teale removed the front wall of the cavity with bone forceps. The result was favourable.

Tracheotomy.—Case 1. A child, aged two and a half, was admitted into the Derby Infirmary pulseless, with a livid aspect, and seemingly asphyxiated. Examination of the pharynx with the finger detected nothing, and a tube passed down the œsophagus proved that no source of pressure was lodged there. Mr. Dix, the House-Surgeon, accordingly at once opened the trachea. A piece of quill having been passed into the wound, respiration was quickly restored, and the patient rallied. During a slight cough which followed, a wedge-shaped piece of hard boiled beef was brought up. The tube was then withdrawn, and the wound closed with plaster. The child eventually recovered, though at one period in great danger from tracheitis. The wound did not heal for upwards of three weeks. *Case* 2. In the Nottingham General Hospital, Mr. Eddison performed the same operation under somewhat similar circumstances to the above, on account of the impaction of a piece of apple in a child's larynx. The four upper rings of the trachea were opened, and very shortly afterwards the foreign body was coughed up. The patient did remarkably well, and the wound soon healed. It was believed that there was a second portion of apple lodged in the right bronchus, which, as it was never brought up in mass, was probably softened and got mixed with the expectoration. *Case* 3. A man, aged 47, a patient in the Leeds Infirmary, had his respiration much obstructed by the emphysema about the throat consequent upon a fracture of the thyroid cartilage. Mr. Teale opened the trachea, and a perfect recovery resulted.

Operations for Urethral Stricture.—In a case in the Nottingham Hospital, in which an extensive and cartilaginous stricture existed with several fistulous communications with the urethra, Mr. Eddison performed the operation of the perineal section. The patient has since done well, but is yet under treatment. In a second case, Mr. Eddison opened the posterior part of the spongy portion of the urethra after extravasation of urine. The penis was sloughing, and the scrotum infiltrated with urine, at the time of the man's admission, and he was extremely depressed. Although free incisions were practised, and stimulants liberally administered afterwards, yet he sank and died within a few days.

Puncture of the Bladder—In three cases, all of which proved fatal. In two, it was performed per rectum, on account of impassable stricture. In the third, a man was admitted moribund from long retention of urine; the catheter failing, the bladder was punctured above the pubes, and about a gallon of urine, mixed with pus, removed. The man lived four hours afterwards.

Paracentesis Thoracis—In one case, for the remains of an empyema, which had been evacuated some months previously. The first opening had been in front, to the left of the sternum; the second was between the sixth and seventh ribs posteriorly. A

fluctuating tumour had presented, and it was simply opened with a lancet. The patient recovered.

Paracentesis Abdominis—In four cases of ovarian dropsy, and two of ascites. In one of the former, some fluid existed in the peritoneal cavity, as well as in an enormous ovarian cyst; and having been first withdrawn, the walls of the latter were found to be so thick that it was deemed best not to complete the operation. The patient died five days afterwards. In another case, the patient died after the rapid refilling of the cyst; the remaining four have been relieved by the operation.

Excision of Malignant Tumours. Scirrhus of the Breast.—Five cases, all of which have recovered. In one, in the Canterbury Hospital, the patient, a married woman, aged 42, stated that she had first perceived the tumour while suckling, and within six weeks after delivery. In this instance, a gland in the axilla was also removed. The patient's health much improved after the operation, and the wounds healed well. *Epithelial Cancer of the Lip*—Four cases, all recovered. In one, the entire lip was removed, and a plastic operation for its restoration is contemplated. Another was of interest, from the fact that the same disease had been removed eight years previously. About a year before the disease reappeared, the man had resumed the habit of smoking. *Chimney-Sweep's Cancer (Epithelial)*—Two cases—both recovered. In one, under the care of Mr. Smith, in the Leeds Infirmary, the disease affected the cheek of a chimney-sweep, aged 23, living in a country town. He had the appearance of having been very neglectful as to cleanliness. In the second, the growth affected the scrotum of a sweep resident at Winchester. *Cancer of the Skin.*—A case operated on at the Exeter Hospital, Mr. Clapp, the House-Surgeon, thus describes: A woman, aged 62, tumour the size of a small orange, somewhat pedunculated, very hard, painful, bleeding, and oozing a thin sanious discharge, of six years' growth; said to have commenced as a wart, having at its base three smaller wart-like ones, attended by cachexia, but with no visceral or glandular disease. The operation proved it to be connected with the skin only; and on microscopic examination, Mr. Clapp believed it to be an example of epithelial cancer. The wound soon healed, and left a healthy cicatrix. In a case under the care of Mr. Teale in the Leeds Infirmary, an ulcerated epithelial cancer was successfully excised from the scalp of a patient, aged 33. *Melanosis of the Eye.*—In the Sheffield Infirmary, Mr. Gregory extirpated the eyeball of a man, aged 43, in whom the disease, which the microscope afterwards proved to be melanotic, had existed for six or seven years. The optic nerve where cut appeared healthy. The man recovered well, and appeared subsequently in excellent health. *Epithelial Cancer of the Labium.*—One case, recovered. *Epithelial Cancer of the Penis.*—Two cases, recovered.

Excision of Non-malignant Tumours.—*Fatty*, nine cases, all recovered. *Encysted*, five cases, all recovered. *Epulis*, two. *Enlarged Clitoris*, one. *Diseased Bursa*, two. *Parotid Tumour*, one. *Tumour in the Eyelid*, one; all recovered. *Enlarged Testis*, one, recovered. This was a singular case. The patient, a young man, of 20, was under the care of Mr. Gisborne in the Derbyshire General Hospital. He stated that his testis had been much enlarged ever since the age of 7; and that some weeks before admission, after an attack of gonorrhœa, it had inflamed and suppurated. It weighed, after removal, a pound and a half; and on making a section of it, there were found in its centre several distinct masses of osseous deposit inclosed in separate sacs, the largest of which closely resembled a molar tooth, but had the structure of true bone. *Exostosis.*—The following occurred in the Kent and Canterbury Hospital; R. L., a robust girl, aged 12, had an exostosis the size of a walnut, growing from almost the whole length of the inner side of the first phalanx of her right middle finger, and another of similar character occupying the whole of the outer side of the second phalanx of the ring finger of the same hand. They had existed as long as she could remember, but had grown more rapidly during the last eighteen months. It was intended to have excised them, but, during the operation, the bones from which they grew were found so much involved that amputation had to be performed, in the one case, at the metacarpo-phalangeal joint; in the other, at that of the first phalanx. *Cutaneous Tumours (of doubtful nature).*—The following occurred, also, in the Canterbury Hospital: A healthy looking girl, aged 20, had, on her abdomen, two small, fleshy tumours, very pain-

ful, but not at all tender, one of which, on the left of the umbilicus, resembled a large, rounded nipple, with a dark brown areola; the other, in the left iliac region, was flatter and more irregular in shape; the latter had existed from childhood, the former for about three months. After excision, the nipple-like growth had the appearance of firm fat, while the other, which was lobulated, had a bluish colour, and was hard and almost cartilaginous in structure. The wound in the iliac region did not heal kindly, but some sprouting granulations of suspicious appearance formed in it, which required to be destroyed by caustics; the other soon cicatrized. *Sero-cystic Sarcoma of Breast* from a woman, aged 41, in the Leeds Infirmary, by Mr. Smith. It had been ten months growing, and weighed two pounds and a quarter. Recovered.

Loose Cartilages in Joint.—In the Derby Hospital, Mr. Johnson removed three loose cartilages from the knee of a man aged 56. Two of them about the size of musket balls were excised by a free incision from a sac over the outer side of the joint, and probably not having direct connection with it. The third, in size and shape much resembling a patella, was taken from under the ligamentum patellæ or its inner aspect. The wounds discharged healthy pus for a few days, and then closed. The swelling of the knee gradually diminished, and the patient did well.

Necrosis of Bone.—Four cases have been operated on, all of them with great relief.

Radical Cure of Hydrocele.—In five cases, injection with diluted tincture of iodine has been practised. In three cure ensued, but in the fourth the cure is not yet complete, and in the fifth the patient was lost sight of before the result was certain; he had, however, done well.

Plastic Operations.—Harelip.—Four cases; all cured. *Cicatrix of Burn.*—Two cases relieved.

Tenotomy of the tendo-Achillis for talipes equinus in five cases, all with success. In a case in the Derby Hospital, under the care of Mr. Gisborne, the tendo-Achillis, the peronei, and the extensors of the toes, were all divided on account of severe equinus. The patient (aged 15) left the hospital two months afterwards with a much improved foot.

Uterine Polypus.—One case; the tumour, a common fibrous polypus, was removed by ligature, and the patient did well.

Cataract.—By absorption in four cases, all of them double; doing well, but yet under treatment. *By depression* in six cases, and in five with successful results.

Entropium.—One case; successful.

Strabismus.—Three cases; all successful.—*Med. Times and Gaz.* Feb. 4, 1854.

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Lectures on Functional Disorders of the Stomach. I. *Sympathetic Disorder of the Stomach from Irritation elsewhere.* By George Budd, M. D., Professor of Medicine in King's College, London.—Functional disorder of the stomach may result not from organic disease of the stomach merely, but from organic disease of other organs; and that, not by the constitutional disturbance which this disease sets up, or by any change it may cause in the state of the blood, but by an influence transmitted through the nerves. An illustration and a type of disorder of the stomach so produced, is seen in an experiment long ago performed by Spallanzani.

Spallanzani excited vomiting in himself by tickling the fauces, in the morning before breakfast, when the stomach was empty of food, and when, as we may infer from the recent observations of Dr. Beaumont, it contained no gastric juice. By the act of vomiting, more than an ounce of fluid was thrown up, and by then exciting vomiting again in the same way, he obtained a still larger quantity. He then tested the digestive properties of this fluid, and found that it dissolved meat and prevented its putrefaction. The fluid consisted, therefore, at least in part, of gastric juice.

Here, then, mechanical irritation of the fauces not only excited reflex action of the muscles to produce vomiting, but also excited, in the same way, by reflected nervous influence, a secretion of gastric juice.

Irritation of the lung, or of the brain, or of the liver, or of the uterus, from certain kinds of organic disease, frequently leads, as is well known, to *sympathetic* vomiting, that is, to vomiting caused by nervous influence reflected from the seat of disease upon the muscles which perform this act. The matter vomited in such cases is frequently acid, even when digestion is not going on; and the stomach exhibits the action of the gastric juice after death more frequently in persons who die of diseases

that cause this sympathetic gastric disorder than in others.* Whence we may safely infer, that the reflex nervous influence excites, not merely the act of vomiting, but also, in many cases, as in the experiment of Spallanzani, a secretion of gastric acid.

A familiar instance of this gastric disorder is seen in phthisis. In most cases of phthisis, indeed, vomiting occurs sooner or later, and the functions of the stomach are otherwise disordered; and not unfrequently, in certain stages of the disease, there is more suffering from the stomach disorder than from symptoms immediately referable to the lung.

In phthisis, vomiting may be brought on in several ways.

Sometimes, especially at an early stage of the disease, when the cough is dry and hard, vomiting results from the mere violence of the cough; occurring, as in hooping-cough, only at the end of hard fits of coughing, and without much loss of appetite, or of digestive power, and with little or no pain in the stomach.

When brought on in this way, it is most effectually controlled by sedatives, which lessen the frequency and the violence of the cough, on which the vomiting depends. Three minims of dilute hydrocyanic acid, with from a twelfth to a twentieth of a grain of muriate of morphia, three times a day, generally succeeds in mitigating, if not entirely removing, this variety of gastric disorder.

More commonly, vomiting occurs later in the disease, usually attended by loss of appetite, and by pain and a sense of heat at the stomach, and the matter vomited is usually sour. These symptoms, unless proper means be taken to prevent them, continue many weeks or months; in fact, often till death; and after death, in such cases, the mucous membrane of the stomach in the big end is very commonly found thin and soft. Now and then all the coats are completely dissolved.

These facts have been accurately noted by M. Louis, in his elaborate work on Phthisis, in which the changes of structure found in the stomach after death are supposed to have occurred during life, and to account for the gastric disorder.

One circumstance incompatible with this supposition is noticed by M. Louis; it is, that the changes of structure found after death do not correspond in degree with the severity or duration of the gastric symptoms. The change of structure is sometimes great where the gastric disorder has been slight; and where the symptoms have been severe and prolonged, the stomach is sometime found perfectly sound.

I have elsewhere endeavoured to show that the gastric symptoms in such cases originate, not in structural disease of the stomach, but in undue and untimely secretion of gastric juice and other functional disorder excited by reflex nervous influence. The functional disorder may, after a time, lead to an inflammatory or a catarrhal state of the mucous membrane, which will be an additional cause of disordered digestion; but the *softening* of the stomach that so commonly occurs takes place after death, from the action of the gastric juice, and cannot be expected, therefore, to have a constant relation to the symptoms in degree, since the extent of softening depends merely on the quantity of gastric juice which the stomach happens to contain at the time of death, on the temperature at which the dead body is kept, and on the time after death at which it is examined.

The best remedies for this gastric disorder are alkalies, to neutralize the excess of acid in the stomach; and astringents, which tend to restrain undue secretion by the mucous membrane.

Fifteen grains of bicarbonate of potass, or fifteen minims of liquor potassæ, or an ounce and a half of chalk mixture three times a day; or better still, the vegetable astringents —logwood, krameria, catechu, kino, will generally stop the vomiting for a time, and alleviate the other symptoms of this gastric disorder.

Astringents should be given a short time before meals; alkalies two or three hours after meals.

In the advanced stages of phthisis there is often, especially in women, another cause of gastric disorder. The liver grows fatty and large, and overlaps and compresses the pyloric end of the stomach, leading to that enlargement of the stomach so commonly found in persons dead of phthisis, and, in a slight degree, to the various evils of obstructed pylorus. For these evils, as we cannot remove the cause on which they depend, we have no effectual remedy.

* See Croonian Lectures, delivered at the College of Physicians, in February, 1847, and afterwards published in the *Medical Gazette* of that year.

Disorder of the stomach of the same kind sometimes originates in the liver, especially from the irritation caused by an abscess, or from the passage of gall stones.

I shall only speak here of the effects of the passage of gall-stones, which, in this country, is by far the more common condition.

The illness in such cases generally comes on suddenly, two or three hours after eating, with severe pain, like that of colic, in the region of the gall-bladder. The pain abates, and recurs again in paroxysms, attended by a sense of constriction at the chest, and by distressing nausea and frequent vomiting. The matters vomited are often very sour, even when the stomach has been previously completely emptied of food; and when the common duct is not closed, are bitter, from the presence of bile which has passed upwards into the stomach.

Now and then, after the stomach has been completely emptied of food, and when nothing more is eaten, enormous quantities of acid are brought up by the repeated efforts of vomiting. This acid, which is obviously secreted by the coats of the stomach, was found by Prout to be the *muriatic*.

After the symptoms have continued some time they generally cease *suddenly*, as the stone passes out of the gall-duct into the bowel. The sequence of events, in such cases, is as clear as if it resulted from direct experiment. The gall-stone passes into the common duct, and immediately causes severe pain, with vomiting, and the outpouring of an acid fluid from the stomach. The stone escapes from the duct into the duodenum, and the pain, the vomiting, and the undue secretion of acid in the stomach cease at once.

There is no mistaking the relation of the facts. The mechanical irritation of the stone, in its passage through the gall-duct, causes vomiting by nervous influence reflected on the muscles that perform that act, and causes untimely secretion of acid in the stomach by nervous influence reflected on the secreting structure in its mucous coat.

The muriatic acid must be derived from the decomposition of common salt in the secreting apparatus of the stomach; so that mere mechanical irritation of the lining membrane of the gall-duct, by means of an influence transmitted by the nerve, sets in action, in a distant part, a muscular power and a chemical power—a muscular power which empties the stomach by almost convulsive efforts of vomiting, and a chemical power which causes, in the coats of the stomach, the rapid decomposition of common salt.

The facts, as mere objects of scientific interest, are very remarkable, and important inferences regarding the actions of the body in health as well as in disease, are deducible from them. It has, for example, long been a disputed question—What is the proper acid of the gastric juice? And the question has proved difficult of solution, because the stomach generally contains no acid when it is empty of food; and if vomiting be excited, and the contents of the stomach be analyzed while digestion is going on, any acids that may be formed from the food in the process of digestion are mixed with the acid secreted by the coats of the stomach itself. During the passage of a gall-stone, on the contrary, acid is abundantly secreted by the coats of the stomach, and is thrown up, unmixed with acid from other sources; so that, if the acid vomited in such cases be the muriatic, we are led to the conclusion which was formed by Dr. Prout, and which recent researches have confirmed, that muriatic acid is the proper acid of the gastric juice. The irritation caused by the passage of a gall-stone is probably reflected on the muscles that cause vomiting, and on the secreting apparatus of the stomach, in different relative degrees in different cases. In some cases the muscles may be chiefly excited, and there may be severe and frequent vomiting, without much increased secretion; in others, there may be greatly increased secretion, while the vomiting is slight.

The same difference is observed in different cases, in the gastric disorder in phthisis.

The passage of a gall-stone, which produces this secondary disorder in the stomach, causes severe pain in the injured gall-duct; and, as a general rule, the gastric disorder is doubtless greater the more severe the pain. We must bear in mind, however, that the irritation of internal parts may cause severe sympathetic disorder, without causing any pain. A worm in the bowel, which causes no pain there, may be the exciting cause of spasmodic disorder. An old abscess in the liver, not painful in itself, may occasion frequent vomiting. An injury in the hand or foot, attended with

little pain, may give rise to the fatal spasms of tetanus.

It is not, therefore, a valid objection to the explanation given above of the gastric disorder in phthisis, that in some of the cases in which this disorder is great there is little or no pain in the chest. The irritation is transmitted to the central organs of the nervous system, and there reflected so as to cause the sympathetic disorder of motion or of secretion, though it be not of such kind as to cause pain.

During the passage of gall-stones, considerable and speedy relief to the gastric disorder may often be given by alkaline medicines. Dr. Prout especially recommended frequent draughts of hot water, containing carbonate of soda in solution—from one to two drachms of the soda to a pint of water. "The alkali," he says, "counteracts the distressing symptoms produced by the acidity of the stomach, while the hot water acts as a fomentation to the seat of pain. The first portions of water are commonly rejected almost immediately; but others may be repeatedly taken; and, after some time, it will be usually found that the pain will become less, and the water be retained."

Bismuth and chalk combined, which, when there is free acid in the stomach, acts both as an alkali and an astringent, is often of still greater efficacy in the vomiting sympathetic of hepatic disease. From five to ten grains of prepared chalk, and as much of the trisnitrate of bismuth, may be suspended in water by the mucilage of tragacanth, and given, together with minute doses of morphia, as often as the symptoms require.

The passage of a renal calculus along the ureter affects the stomach in the same way, and often just as much, as the passage of a gall-stone along the common duct.

The same kind of gastric disorder may result from disease of the brain; especially from inflammation of the brain or its membranes. It has been long known, that vomiting is a frequent and often a prominent symptom of such disease; and the circumstance to which I have before referred, that in persons who have died of it, the mucous membrane of the stomach, in its big end, is frequently found more or less dissolved or digested by the gastric juice, shows that the irritation of the brain does not excite merely the mechanical act of vomiting, but that it excites also, at least in many cases, untimely secretion of gastric acid.

It is in inflammatory diseases of the brain, more than in other diseases, that this gastric disorder is seen; and it occurs especially *in the early stage of those diseases*, when the symptoms betoken irritation of the brain, rather than compression. Andral, who has investigated this subject with much care, says:—

"Vomiting, or at least nausea, very frequently attends acute inflammation of the membranes of the brain. These symptoms show themselves almost exclusively in an early stage of the disease, and they often mark its onset. In some cases, they are not often repeated, and excite little attention, and cease to recur at the end of twenty-four hours. In other cases, on the contrary, they continue many days, and sometimes even during the entire course of the disease."

This circumstance explains how it happens, that when death results from inflammatory disease of the brain, the stomach is, in some cases, found perfectly sound; while in other cases, which are comparatively few in number, it exhibits in high degree those changes which are produced after death by the solvent action of the gastric juice.

These changes cannot take place unless there be a good deal of free acid in the stomach at the time of death; which is seldom the case, unless the gastric disorder have continued to the time of death, and which may not be the case even then.

The gastric disorder varies very much in different cases, not merely in duration, but in severity while it continues; and probably in the relative degree in which the muscles and the secreting function are affected. Andral says: "Some patients vomit only two or three times a day; others at much shorter intervals, every hour, for instance, or every quarter of an hour. Many patients throw up in this way, in a short time, an enormous quantity of yellow, or greenish bile; others, in the midst of painful efforts, only expel a little mucus. There are some who cannot take a spoonful of drink without bringing on vomiting."

This gastric disorder, like other sympathetic nervous disorders, occurs more frequently, and in higher degree, in women

than in men, and in children than in grown-up persons.

The vomiting or nausea is sometimes attended by pain at the epigastrium, and some degree of tenderness, especially, I believe, where the secreting function is especially disordered; but these symptoms are less frequently noticed than in phthisis; in consequence, probably, of the shorter duration of the gastric disorder in most cases, and of the severe pain of the head which usually attends inflammatory diseases of the brain, and which prevents the patient from feeling, or regarding, a slighter pain in the stomach.

Where the gastric disorder is attended with secretion of much acid, soda and magnesia, chalk, and bismuth, are the remedies which most allay it.

Gastric disorder of the kind we are considering, results more frequently still from organic disease of the uterus.

The effect of irritation of the uterus in causing vomiting was shown with the distinctness of direct experiment in the following case related by Gooch:—

"Dr. Denman passed a ligature round a polypus of the fundus of the uterus; as soon as he tightened it, he produced pain and vomiting. As soon as the ligature was slackened these symptoms ceased, but whenever he attempted to tighten it the pain and vomiting returned. The ligature was left on, but loose. The patient died about six weeks afterwards, and, on opening the body, it was found that the uterus was inverted, and that the ligature had included the inverted portion."

Frequent and distressing vomiting now and then occurs, as is well known, in women afflicted with cancer of the uterus; an effect, no doubt, of reflex nervous influence. And the circumstances that, in such cases, the vomiting is often attended by pain at the stomach and thirst, and that the coats of the stomach are occasionally found much softened or digested after death, show, as in the instances I have before cited, that in many cases, at least, this reflected nervous influence disorders the secreting function of the stomach, as well as the muscles.

Disorder of the stomach of the same kind now and then occurs when miscarriage is about to take place, and also in conjunction with chronic ulcer of the neck of the womb. In the latter class of cases, the sufferings referable to the stomach may be so severe and long-continued, and the pain in the womb so slight, that both the patient and her medical attendants may have their attention more fixed on the secondary functional disorder than on the primary disease.

In these diseases of the uterus, indeed, as in tuberculous disease of the lung, the degree of disorder of the stomach has no constant relation to the degree of *pain* in the primary seat of disease.

The same kind of gastric disorder now and then results from what might seem to be very trifling causes of disturbance. In nervous women, particularly in those whose sensibility has been exalted by losses of blood, or by a state of anæmia brought on in any other way, and in whom digestion is habitually feeble, the direct irritation of the coats of the stomach by an unwholesome or undigested morsel of food may excite the disorder, which, if any other disturbing influence exist, may subsequently be kept up for weeks, or even months together, unless great care be taken not to irritate the coats of the stomach by physic or food.

When the disorder originates in this way, it usually comes on in the evening, or at night, and especially after fatigue. The illness commences with vomiting or nausea, which is followed by pain or uneasiness at the pit of the stomach, and, if the disorder continue long, by loss or great impairment of appetite, and by thirst. The stomach sometimes becomes extremely irritable, so that vomiting recurs frequently, and is at once brought on by swallowing any food, or even the simplest drinks. There is then severe pain at the pit of the stomach, and the matters vomited are usually bitter. When the stomach is less irritable, food is retained for a time, and the matters rejected from the stomach are intensely sour. The acid thrown up in such cases is probably not all secreted by the coats of the stomach. The continued disturbance of the secreting function of the stomach seems to lead to an inflammatory, or a catarrhal, state of the mucous membrane. The digestive power is greatly weakened, and under the influence of unhealthy or decomposing mucus, the starchy principles of the food undergo fermentation in the stomach, by which large quantities of lactic acid are formed. The undue acidity of the stomach, or the great disturbance of its secreting function, lessens the secretion of the liver, and after the disorder has continued some days, the

countenance sometimes becomes slightly sallow. The symptoms are then not unlike those produced by the passage of gall-stones, and are almost as severe. The sallowness, however, when it occurs, never attains a high degree, and is generally transient, while the gastric symptoms are often of much longer continuance than those usually are which result from the passage of gall-stones. In some cases they continue with slight intermissions for months together, and lead to the suspicion of serious organic disease.

This happened in the case of a lady fifty-seven years of age, who came under my care in the summer of 1845. She had then been subject for many years to attacks such as I have described, of most distressing vomiting, attended by severe pain at the epigastrium. The matters vomited were always sour, and, when the vomiting was frequently repeated, were bitter. In some attacks, after these symptoms had continued a day or two, the countenance became sallow.

It was supposed that the attacks might be owing to the passage of gall-stones; but, though diligent search was often made for them in the matters discharged from the bowels, none were ever found there.

The attacks generally came on in the evening, and were brought on, as she supposed, by fatigue, or by something unwholesome she had eaten. They occurred especially when she had been weakened by hemorrhage from internal piles, to which she was subject.

The piles were cauterized by nitric acid, and the hemorrhage ceased to recur. Upon this her general health improved, and the attacks became less frequent and severe.

I had heard nothing of her for three years, when, in the month of June, she called on me, looking stouter and healthier than four years before.

She told me that nine months before that time the stomach disorder came on again, and was so severe that she was confined to bed four months, vomiting almost everything she took. After trying various medicines in vain, she was speedily and perfectly cured by taking ten grains of bismuth and ten of magnesia every four hours, and a dose of soda, rhubarb, and calumba, at the hour of dinner.

The symptoms had recurred in a slight degree since, but were immediately stopped by the bismuth and magnesia mixture, which she believed to be a perfect remedy for these attacks.

I could cite to you many other instances where stomach disorder of this kind, seemingly induced in the way I have described, was so severe and long continued, as to lead to the belief of serious organic disease. The disorder is, as I have stated, most common in women, especially in those whose nervous susceptibility has been exalted by losses of blood, or otherwise; but it also occurs in men who have excitable nervous systems, and whose digestion is habitually feeble.

The means I have found most effectual in mitigating and subduing the disorder are—bismuth, which may be given in doses of ten grains a short time before meals; an occasional dose of magnesia or chalk, to neutralize any excess of acid which the stomach may contain; regulation of the bowels by pills of colocynth or aloes; total abstinence from alcoholic drinks, which generally aggravate the disorder; and a diet composed of liquid and pultaceous food of the least irritating kind.

When the stomach has become tranquil, it is requisite, with the view of preventing a recurrence of the disorder, to stop any exhausting drain that may exist, and, by a course of steel medicines, by a nourishing but easily digestible diet, and by other means available for this purpose, to remedy the state of anæmia or the irritability of the nervous system from which the disorder springs.

The gastric disorder we are considering occurs, as I have before remarked, more frequently in women than in men. It occurs still more frequently, from a given cause of disturbance, in young children, in whom the secreting function of the stomach is very active, and who are especially liable to reflex functional disorders of other kinds.

Young children with tuberculous disease of the lung or inflammation of the brain have this secondary gastric disorder more frequently than grown-up persons suffering from the same diseases, and their stomachs are more frequently acted on, and in higher degree, by the gastric juice after death.

They are not liable, like grown up persons, to disorder originating in the liver or the uterus; but they have, at a certain period, a constant source of disorder in the irritation of teething, which frequently

causes gastric disturbance, as it does some of the convulsive disorders to which young children are so subject.

The stomach disorder, like disorder of the muscles, occurs most frequently during the first dentition, in children weakened by the eruptive fevers, or by purgative medicines, improper food, or impure air. It is especially apt to occur on weaning, when the health of the child often suffers, not only from sudden change of food, but from the improper food often substituted for the mother's milk. Occurring under these circumstances, it has been popularly known as the "weaning brash," and has been described in medical works as the "atrophia ablactatorum."

The early symptoms are frequent vomiting, with thirst, and fretfulness, and occasional writhing of the body and plaintive cries, expressive of pain. The matters vomited are sour and bilious, and are thrown up with more effort than attends the common "puking" of healthy children. These symptoms are sometimes attended with looseness of the bowels, the matters discharged from them being greenish, from the presence of bile rendered green by the free acid secreted by the stomach, or formed by fermentation from the food, which has not been neutralized in its rapid passage through the bowels.

If the disorder continues, the child wastes rapidly and grows feeble, and soon exhibits the well known signs of exhaustion—coldness of the surface, irregular pulse, sighing, and slight stupor—signs which have been described by Dr. Marshall Hall as marking what he has termed the "hydrocephaloid disease" of infants.

In this state the child may die, and on examination of the body after death there may be no discoverable change of structure in any organ, or there may be found, in greater or less degree, that peculiar softening of the coats of the stomach, and sometimes (in cases in which there has been diarrhœa), of portions of the bowels also, that is produced after death by the solvent action of the gastric juice.

The disorder is to be controlled in infants much in the same manner as in grown-up persons. The gums should, if needful, be lanced, to lessen the irritation from which the disorder springs. The child should be fed with good milk, or milk and baked flour, or better still, if it be not more than twelve months old, with the milk of a healthy nurse, at short intervals and in small quantities at a time, and should have given to it, in doses suited to its age, chalk or magnesia, or bismuth, or, if it can be got to take them, one of the less nauseous of the vegetable astringents, as krameria or logwood. If the disorder have already produced much exhaustion, a few drops of aromatic spirits of ammonia may be given occasionally with the milk, or with one of the medicines I have just mentioned.

We are now in a condition to take a general view of this peculiar gastric disorder.

It occurs, as we have seen, in grown-up persons and in children, in the male and in the female sex, but is most frequent, for the same cause of disturbance, in susceptible women and in children, especially in children ill-fed, or reduced by previous disorders—persons whose nervous systems are highly excitable, and who are very prone to sympathetic nervous disorders of other kinds.

It seldom exists unless there be some cause of disturbance elsewhere in the body, and occurs with especial frequency in conjunction with tuberculous disease of the lung, inflammation of the membranes of the brain, cancer and some other forms of disease of the uterus, the passage of gall-stones through the ducts, and, in children, while the gums are irritated and inflamed by teething. It occurs also in cases of simple ulcer of the stomach, and in cancer of the stomach; irritation at the diseased part of the stomach, causing, in these cases, undue and untimely secretion in the sound part.

When the exciting cause is of long continuance, or when a proper plan of treatment has not been followed, the gastric disorder in grown-up persons may continue in high degree, with occasional slight intermissions, for months together. In young children this cannot happen; the stomach disorder impedes nutrition, and brings on a state of exhaustion soon fatal of itself.

When the disorder has lasted some time, it is not always entirely functional. The continued functional disorder exhausts and weakens the stomach, and sometimes induces an inflammatory or catarrhal state of the mucous membrane. The digestive power is further weakened, and the stomach secretes an unhealthy mucus, which pro-

motes fermentation in the starchy principles of the food, and thus leads to the formation of large quantities of lactic acid, or some other acid of the same group, which are an additional cause of disturbance in the stomach and bowels.

Whether death has been occasioned by the gastric disorder, or by the concomitant disease, the degree of change found in the stomach after death does not usually correspond with the severity or the duration of the gastric symptoms. The softening of the stomach, which is usually the most striking change observed in such cases, takes place, as we have seen, after death; and does not depend, therefore, on the severity or duration of the disorder, but mainly on the quantity of free gastric (muriatic or lactic) acid which the stomach happens to contain at the time of death. The disorder may have been severe, and have lasted long, but the stomach may contain no free muriatic or lactic acid at the time of death, and may be found perfectly uninjured; while, on the other hand, the gastric disorder may have been very slight; so slight, even, as to have escaped notice; and yet muriatic or lactic acid may have been poured out, or lactic acid may have formed in the stomach, in considerable quantity, just before death, and the stomach be found much dissolved.

This disorder has been very commonly attributed to inflammation; and the vomiting, the pain and tenderness at the epigastrium, the thirst, and, in fatal cases, the softening of the mucous membrane of the stomach, often seen when the body was opened, have seemed to many conclusive evidence in favour of this opinion. Inflammation causes, indeed, vomiting, pain and tenderness at the epigastrium, and thirst; but these symptoms may result from other conditions—vomiting, from irritation elsewhere; pain and soreness at the epigastrium, from the presence of free acid in the empty stomach; thirst, from this, and from the increased secretion which the disorder causes; and the peculiar softening of the stomach, that has been observed in such cases, is not caused by inflammation, and can be explained only from the action of a free digesting acid in the stomach after death. The disorder may, as I have already observed, lead, after a time, to an inflammatory or catarrhal condition of the mucous membrane of the stomach; but, at its origin, and often long after, the disorder of the stomach is entirely functional, and is more allied to the excited and disordered state of the intellect in delirium tremens, or to the involuntary and disordered, and often violent, movements of the voluntary muscles in chorea, than to inflammation.

The power inherent in the voluntary muscles accumulates by rest, to be discharged at the will of the animal for its own purposes. The chemical power of digestion inherent in the stomach accumulates in the same way, to be discharged, to serve an important purpose, when food is placed in the stomach. Every kind of power which an animal can generate—the mechanical power of the muscles, the chemical (digestive) power of the stomach, the intellectual power of the brain, the electrical power of the torpedo—accumulates through the nutrition of the organ on which it depends. The accumulated power is discharged by an influence transmitted through the nerves; and, in a state of health, it is discharged in a degree regulated by the will, or by the physical wants of the animal.

Power is expended only to the extent which the emergency requires. When, for example, food is placed in the stomach, whatever may be the capabilities of the stomach at the time, only so much gastric juice is secreted as is required for proper and speedy digestion. But in states of disease, the power is sometimes expended in undue measure and by nervous influence transmitted from unusual sources, without control of the will, and without reference to the physical wants.

The disorder we have been considering is, at its onset, an instance of this kind.

The most effectual remedies for the disorder are:—

1. Sedatives, and other means which lessen the irritation from which the gastric disorder springs.

2. Alkalies and astringents.

Alkalies sometimes give immediate relief by neutralizing the acid which the stomach contains; astringents alleviate the disorder rather more slowly, but for longer time, by restraining the undue and untimely secretion.

The insoluble alkalies—magnesia and chalk—are well suited to this disorder. They serve to neutralize any excess of acid that may be in the stomach, and, given

under these circumstances, have an astringent action on the surface besides.

Bismuth, of which I have more than once spoken, has a remarkable effect in restraining undue secretion in the mucous membrane, and may often be given with advantage alone, or in conjunction with magnesia or chalk.

While the disorder continues, the diet should consist chiefly of milk and farinaceous food, and little should be eaten at a time. Alcoholic drinks, and all stimulating articles of food, seldom fail to aggravate the disorder, and should be strictly forbidden.

If symptoms indicating an inflammatory state of the stomach should occur—namely, a sense of heat in the stomach, and pain excited by food, tenderness at the epigastrium, and a white coat on the tongue—a blister, or mustard poultices may be applied to the epigastrium; and the stomach may be cooled, and be rendered less irritable, by swallowing occasionally, and especially after meals, a small lump of ice.

If constipation exist, it may be remedied by medicines, such as pills of colocynth or aloes, which do not much offend or oppress the stomach.—*Med. Times and Gaz.* Jan. 14, 1854.

CHOLERA.

Review of an "Analysis of the Official Reports on Cholera in Sweden, in the year 1850, by Dr. Fr. Th. Berg." By Edward Carlton, M D.

(Concluded from page 49.)

We have now examined the details presented to us of the progress of cholera through the southwestern part of Sweden in 1850, and shall next briefly call the attention of our readers to the able *resumé* given by Dr. Berg of its ravages, as compared with those of the pestilence of 1834, in the same kingdom. The extreme points reached by the cholera in 1850, extended in Sweden from 55° to 60° north latitude, and from 29° to 34° longitude east from Ferro. Within this area, however, only a few localities were affected, and many of these lay at considerable distances from others. On the eastern side of Sweden, cholera appeared only in one spot—viz: at the port of Döderhultsvik, from which, however, it did not spread into the surrounding country. No conclusions can, we think, be drawn from the geological character of the infected district, though Malmö and the island of Gottland differ materially in this respect from the general gneiss formation of the rest of Sweden.

In 1834, the pestilence advanced on the eastern coast nearly 50 Swedish miles further to the north, while the western districts, and Götheborg, among the rest, suffered severely. From Götheborg, in 1834, the malady spread in a northeast direction as it did in 1850, following the course of traffic along the Götha River up to the Great Wener Lake. Besides the capital, Stockholm, eighteen other provinces were affected in 1834; but Malmö and Gottland then escaped. Götheborg was ravaged on both occasions; but in 1850, Stockholm remained free from cholera. In 1834, the disease lasted from the 26th of July to the end of December; in 1850, it continued its ravages for nearly five months, or from the beginning of August to the end of December. The greatest spread of the pestilence in 1850, took place during the cold and rough weather which prevailed from the 17th of September to the 17th of October, a period when the diarrhœas and dysenteries incident to the dogdays had almost entirely subsided. In 1834, the mortality from cholera in Sweden was 12,637; in 1850, it amounted to only 1,761 deaths. In 1834, more than 12,000 of the above-mentioned deaths occurred in the months of August and September; in 1850, there was a mortality of 422 in these two months, and of 1,309 in October, November, and December. Dr. Berg thinks that this great difference in the relative period of mortality in these two years may be accounted for by the fact, that Götheborg, the centre of trade and on the great highway to the rest of Sweden, was one of the first localities affected when cholera appeared in 1834; while in 1850, it lingered long in Malmö, an outlying spot with but little trade.

Of the 4,410 cases of cholera in 1850, 2,647 were in the towns, and 425 in divers villages and hamlets; while 1 338 occurred in the country. Among these last, we have included about 80 cases among the sailors in vessels on the Götha River, where the greatest comparative mortality was observed. In 1834, at least 25 000 cases of cholera were reported in Sweden. It is evi-

dent, therefore, that the pestilence of 1850 was much less fatal and less widely spread, the comparative mortality being only 39 per cent. to 50 per cent. in 1834. In 1850, there sickened of cholera 2,207 males, of whom 975 died; and of females 1,684, of whom there died 745. In 1834, the deaths among females were nearly 100 above those of the other sex. In 1850, the pestilence raged chiefly among the labouring classes, especially among those denominated free labourers (*fria arbetare*), who are not lodged and boarded at the various houses or establishments where they work. Very few of the higher, or even of the middle classes of society, were affected, while in 1834, many of the better ranks fell victims to it.

Dr. Berg next presents us with some observations on the assertion made by the English Board of Health in 1850, in reference to the cholera of 1848-49, viz:—

"That in every European town where cholera appeared, it gave warning of its approach by the increased prevalence of zymotic diseases, such as influenza, scarlet fever, dysentery, and diarrhœa; and that the last-named, as a premonitory symptom, invariably prevailed extensively before cholera broke out."

On this question, Dr Berg remarks that agues and smallpox were extremely prevalent in Sweden in 1847 and 1848, that the former of these maladies spread over the whole country at that time to an unprecedented degree, but that in 1849 its limits were much narrowed, and in 1850 only a few isolated cases occurred. The progress of smallpox was not in the slightest degree altered or arrested by the cholera; scarlet fever, of a mild character, prevailed in several districts, but did not increase before the appearance of the pestilence, while gastric nervous fever (typhus) rarely occurred, and never became epidemic. Indeed, the health of the whole country previous to August, 1850, was for four years remarkably good. Diarrhœa, dysentery,* and cholerine, appeared annually in summer and in autumn, and were perhaps indeed, more abundant in 1850, than in the three previous years; but they were not in any way confined to those districts where cholera shortly afterwards broke out. Influenza did not show itself till 1851, when cholera had entirely ceased.

Dr. Berg, therefore, comes to the conclusion, that—

"It was not possible in 1850, to foretel in Sweden the near approach of cholera from the augmented prevalence or mortality of the so-called zymotic diseases, and that if it be true that cholera is always preceded by an increase of these maladies, and perhaps forms a species of culminating point, or is a product of such culmination of any zymotic disorder, it would be labour in vain to seek how the disease arose, or how it was propagated."

The prevalence of diarrhœa and of dysentery in Sweden during hot weather, has been proved by the carefully kept statistical reports of that kingdom, and which extend back for nearly a century, to be dependent upon atmospheric changes; and the frequency of the above-named disorders during the hot summers of 1834 and 1850, does not appear to be in any way connected with the appearance of cholera in those years. Summers quite as hot, atmospheric vicissitudes quite as great, have repeatedly occurred, and have almost always been followed or accompanied by a great increase of cases of diarrhœa and dysentery, and yet no cholera has been produced by these. Indeed, with the exception of the town of Malmö, where the first cases of cholera were observed during the prevalence of a predisposition to diarrhœa and cholerine, that predisposition, which had manifested itself so generally throughout in the hot summer months, had ceased and almost entirely disappeared for weeks, nay, in some instances for months, before cholera broke out. In many places, too, where the pestilence numbered many victims, no diarrhœa, dysentery, or cholerine had been observed during the preceding twelve months; and again these disorders prevailed with great severity in other districts which entirely escaped the ravages of the pestilence.

At Wenersborg, Kongelf, and elsewhere, diarrhœa became frequent about a week before cholera fairly broke out, but this disorder is by Dr. Berg regarded as the result of the pestilence itself. It is true that in most zymotic disorders the first cases in any locality are generally the most severe; but, on the other hand, where the invasion

* Dysentery is, in some provinces, as has been shown by Dr. Huss, almost endemic, and occasionally it becomes extremely severe and epidemic. Thus in the Dales province (Dalarne) dysentery was remarkably prevalent in 1838, but this province has always escaped the ravages of the cholera.

of a terrible pestilence is feared, the earliest cases are too often carefully concealed, especially if the quarantine regulations have been infringed by those who are thus affected. During the prevalence of cholera, diarrhœa was very frequent, and if not checked early, it often ran on into well-marked cholera. In Sweden, as elsewhere, the well-known premonitory diarrhœa was not wanting in individual cases, while in other instances, cholera, with all its terrible train of symptoms, was developed almost at once.

Dr. Berg approaches the all-important question of the mode in which cholera is propagated, with becoming caution. It is evident that our Swedish colleague cannot divest himself of a certain degree of awe on entering the lists against so imposing a body as that of the English Board of Health. Still, the facts elicited from these Reports appear to him (and we own to ourselves also) of so convincing a character, that he does not hesitate, after sundry apologies for his boldness, to place himself in opposition to the opinions expressed in the recent Report of the Board of Health in England, and which has been more than once considered in the pages of this journal. A brief *résumé* of Dr. Berg's opinions on this subject is all that we can here present to our readers; a full translation of this, the most valuable part of the Report, would lead us beyond the limits of the space assigned to us. Dr. Berg has divided this portion of the subject into several distinct heads:—

1. The appearance and spread of the pestilence on board ships coming from infected ports.

2. Its influence on the officers, &c. at the different quarantine stations on the coast.

3. The mode in which the malady spread along the chief lines of communication throughout the country.

4. The number of *first* cases in previously healthy localities, proved to have been in communication with infected districts or persons.

5. The influence of infected persons on their friends, relatives, and attendants.

To each of these we now invite the brief attention of our readers.

1. *The appearance and spread of the pestilence on board ships coming from infected ports.*

Many of these vessels had been several days at sea before cholera broke out on board, and the malady spread from one to another of the crew and carried off many victims. These ships were then sailing on the Baltic in different directions, and it might be urged that they by chance had encountered a current of air charged with cholera miasm; but it is strange that other vessels, which had not communicated with Lubeck, Stralsund, and other towns where cholera was then raging, did not encounter this supposed poisoned current, or at all events passed through it in safety.

2. Of the physicians, servants, and officers, attached to the different quarantine stations on the coasts, eight sickened of cholera, and two died.

3. *The mode in which the disorder spread along the great lines of traffic.*

When cholera broke out, about the 22d of September, 1850, in the large town of Götheborg, no signs of the pestilence had appeared in the surrounding villages on any side; but after a longer or a shorter period, the malady radiated from Götheborg as a centre, to almost all those parishes, villages, and hamlets which were in constant communication with the town. It was observed, however, that cholera adhered to what has been so often remarked upon, yet never explained by the anti-contagionists—a pre-eminently erratic course. At a single bound, and before any of the intervening parishes were affected, it passed to Lilla Edet, 25 miles up the Götha River, the great channel of communication with the interior of Sweden. Here it showed itself first on the 28th of September, in the person of a sailor who had that day arrived from Götheborg, and from this man the disease spread to other persons in the village. Almost all the parishes around Götheborg were, as before said, sooner or later infected, but in the most irregular manner; the pestilence would at one time break out in a parish lying some miles to the north, and then, a week after, a single commune to the southward of the town became, in its turn, infected. In the very next parish, perhaps, no case of cholera occurred till ten days or a fortnight later, and we consider this erratic property of the pestilence as one of the strongest proofs of its being transmitted by individual influence, and of its not partaking of the nature of an atmospheric or telluric miasm.

Of the 80 communes or parishes that were visited by cholera in 1850, not less

than 50 reported that the first cases of cholera occurring within their boundaries were observed in individuals who had either themselves visited infected places, or who received visits from such localities. The parishes around Götheborg took for the most part few or no precautions, but kept up their daily intercourse with the town; and we accordingly find, by the appended map, that scarcely a single parish in that district escaped being sooner or later visited by the disease.

5. The influence of the affected persons on their attendants and relatives has been already several times alluded to, but upon this part of the subject we prefer to give a faithful transcript of Dr. Berg's own opinions:—

"The reports that have been laid before us appear not only to establish the fact that the visit of a healthy person to an infected locality may produce in such an individual an attack of cholera, either immediately or not till some days after he has returned to his yet healthy residence, but also, 1, that in spite of the salutary and purifying influence which the sea air and the sea breezes may exercise upon a ship which has left an infected port, cholera may break out on board of such a vessel at any time during at least fourteen days after she has been at sea.* We must either admit that in such a case the disease has been caught in the infected port, and has lain dormant for a time in the system of its victims, the premonitory diarrhœa, the first symptom often of the malady having been overlooked or concealed, or else that the ship itself has become the receptacle of a store of miasm while sojourning in port, and which pestilential vapour or miasm breaking forth, at length affects the crew with cholera."

It has, however, rarely happened that many of a ship's crew were seized at once; the disorder has crept from individual to individual in a fashion eminently favourable to the doctrine of contagion.

"2. That after individuals affected with cholera have been removed from such ships into a quarantine hospital, the disease has broken out among the officers and servants of the previously healthy establishment, and it is, therefore, hardly possible to disbelieve, in such cases, the influence of personal contact in spreading the disease.

"3. That it repeatedly happened, that when a previously healthy individual had had communication with an infected person or locality, and had returned to his own home, where no cholera had hitherto appeared, he has sickened of the pestilence, and that the next victims have been his nearest relatives and friends, and not only those whose condition and habits of life were favourable to the reception of the disease, but even persons living in comfortable circumstances, and that the disease spread again from these new foci. While it is acknowledged that in such cases fear, affliction, and bodily exertion may have a certain influence, yet the effects of personal contact with the sick appear undeniable, unless it can be proved that such depressing influences will of themselves produce an attack of cholera at times when the disease does not prevail in the country.

"We must, therefore, come to the conclusion, not only that cholera can be thus propagated from one individual to another, but that this is really the mode by which it is spread over the country.

"While we admit that possibly cholera *may* be generated in other countries, and even in Sweden, by local influences alone, the facts elicited in the examination of these reports are, we think, of such force, as to overbalance entirely the negative results obtained as to the origin of the disease in Götheborg, Rönneby, and Döderhultsvik, in favour of the origin of cholera in these places from a local cause." (p. 340.)

The fact that hundreds of persons visited those sick of cholera and yet escaped the disease, is estimated by Dr. Berg at its true value. After remarking that the same is known to occur in all infectious diseases, he admits that something more than mere personal contact, or the inhaling of the miasm from the sick, is required to produce the disorder; that there is some predisposition necessary in the case of the recipient individual, without which he may escape altogether unharmed. What this condition of the system is, we cannot at present define, but we are well convinced that want and misery, uncleanly dwellings and habits, a foul and stagnant atmosphere, and, above all, perhaps, the abuse of spirituous liquors,

* It would be very interesting to obtain some positive data as to the period of *incubation* in cholera as compared with other zymotic diseases. As regards measles, the researches of Dr. Panum, in Feroe, have, we think, fairly proved that the period of incubation for that disorder is from fourteen to sixteen days.

with its long train of accompanying evils, are causes that most powerfully predispose individuals to receive infection. It is against these, then, that our energies must be directed, in order to mitigate their influence by a well-conducted sanitary reform. We do not mean by this, the boasted activity of well-meaning but mistaken poor-law guardians and magistrates, who, when roused into activity by the near approach of pestilence, enter upon a crusade against the noisome drains, sewers, and privies of our towns; and having perfected their work by whitewashing the walls of each filthy alley, believe that they have done all that is requisite to repel the invading foe; meanwhile, the lodging-houses, of which the walls have just been cleansed, are permitted to be crowded night and day with the pallid, half-starved victims of intemperance and disease—fit food for any pestilence that may appear; and should cholera be introduced among these, scarcely an individual, as we have ourselves witnessed, will escape the contagion. Without the separation of the sick from the healthy, or, at least, unless an abundance of fresh air is permitted to circulate around the beds of the affected persons, cholera will be propagated through contagion in these lodging-houses every time that it visits our shores. Should we, then, have recourse to quarantine regulations for the protection of our coasts? *We think not.* Quarantine, in a country so dependent for its prosperity upon its foreign trade, is, in our opinion, a greater evil than the cholera itself. To be of any avail, such a quarantine involves an almost absolute cessation of intercourse with infected countries; no loop-hole must be left whereby the disease might creep in amongst us. Is there any one who believes that this is practicable? is there any person who will maintain that by the most stringent penal enactments we can effectually isolate England from the rest of the world? And if we cannot accomplish this, then our imperfect measures of restriction will be infinitely more prejudicial than no quarantine regulations at all. Starvation and misery among the working classes, the inevitable results of the closure of our ports, would create a tenfold predisposition to the disease; and should cholera then be wafted to our shores, twenty victims would fall before it for one that would have died, if the trade of our great commercial country had continued unchecked. In small communities, as in the isolated parishes and thinly scattered villages of Sweden, such prophylactic measures may be, and undoubtedly have been, available, as they have likewise proved efficacious in our northern islands, where, although in a sanitary point of view every circumstance favoured the progress of cholera, yet a strict quarantine enforced on the few vessels that visited their shores, effectually protected these islands from the pestilence. Since, then, we cannot hope to exclude the pestilence altogether, let us oppose every obstacle to its progress, and mitigate the severity of its ravages by effective sanitary measures. On the advantages of sanitary reform all parties are agreed—all acknowledge the necessity of good drainage in our cities, and the protective benefits of cleanliness, temperance, and good food; but the great strongholds of disease—the very foci of infection—our low lodging-houses in the towns, villages, and hamlets, have been too often overlooked; and while deceiving the public by an outward show of cleanliness, their whitewashed walls have concealed a charnel-house within.

Of the care and attention bestowed by Dr. Berg in the preparation of this able Report, it is impossible to speak too highly; and it would form an excellent model to be followed in the documents to be issued by any future Board of Health.

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Treatment of Cholera. By H. W. Reed, M. D.—Perhaps the experience of cholera during a ten years' residence in India, may not be unacceptable. The following treatment I have found useful, and it has not unfrequently been successful. Immediately upon the first appearance of the disease give a mustard emetic. Do not mind its being instantaneously rejected; repeat it; and even again, should neither remain longer than three or four minutes in the stomach. If the emetic remains, it will be unnecessary to give another. Since the severity of the symptoms are generally suspended for a time under this management, you have now the opportunity of giving other remedies, without the discouragement of finding them immediately ejected as formerly. Next give half a grain of the muriate of morphia, and three grains of nitrate of potash, every half hour till the pulse increases in vigour and volume, and reaction becomes steady. The first dose of morphia may even be three-quarters of a grain or a

grain: or half a grain may be repeated in a quarter of an hour. The case, it must be remarked, is dangerous, and admits not of delay; while to prevent a return of vomiting and collapse is most important. This effected, there is a probability of safety to the patient. Should the vomiting return, try the emetic again, or frequently moisten the tongue with a concentrated solution of morphia. The effect produced, and not the quantity of morphia administered, must form the criterion for its repetition. Sulphuric ether at the same time may be advantageously inhaled from a handkerchief; it tends considerably to allay pain and spasm.

During the course of the disease, at all times allow the patient to satisfy his thirst with copious draughts of water, in which a drachm of carbonate of soda to the quart is dissolved. It will be rendered more grateful and better adapted for the condition of the stomach by the further addition of citric acid. Do not be deterred by its being rejected two or three times, still encourage the patient to drink freely. Foment the stomach with hot turpentine on flannels, or apply large mustard poultices made with turpentine; rub the extremities assiduously with flannels, which may be soaked in turpentine and water. In addition, the bed should be artificially warmed; the spirit-lamp so made for that purpose is perhaps the best method. Sixty or eighty drops of laudanum, in an ounce of any bland fluid, may be thrown up the rectum. This should be retained as long as possible, and not repeated unless it has escaped.

The reaction which succeeds in a favourable case to the first violence of the disease is sometimes severe and complicated, and will require its appropriate management.

In cases of British cholera, the morphia and ether, with the mustard externally, will generally be found to succeed in a few hours, even though the disease be attended with cramps and incessant vomiting. No case of cholera can receive a fair chance without the constant presence and unremitting attention of the practitioner.—*Assoc. Med Journ.* Dec. 23, 1853.

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Cholera in Persia.—The mortality in the camp for military exercises at Sultanieh, amounted to 80 cases a day. Out of from 35,000 to 40,000 troops, about 2,000 have died, including a few generals, mustaphas, and the admiral of the fleet. In consequence, Nouriddin Shah had returned on the 1st of October to Teheran. Persia has been visited with severe calamities lately. Teheran has lost by the cholera 11,000 inhabitants; Ispahan, up to the 20th September, 9,700; Tabris, 10,000; and Kermen, 7,000. Whole villages have died off, or the inhabitants have fled to the mountains.—*Med. Times and Gaz.* Feb. 11, 1854.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

The Alleghany County Medical Society held its regular quarterly meeting in Arthur's Hall, on Tuesday last, Jan 3, where the annual election of officers took place, when the following gentlemen were chosen for the ensuing year:—

President—Dr. C. L. Armstrong.

Vice-Presidents—Drs. J. P. Gazzam and John McCracken.

Corresponding Secretary—Dr. A. M. Pollock.

Recording Secretaries—Drs. Thomas J. Gallaher and E. G. Edrington.

Treasurer—Dr. A. M. Pollock.

Censors—Drs. R. B. Mowry, E. G. Edgington, G. D. Bruce.

Examiners—Drs. J. P. Gazzam, A. M. Pollock, D. M'Meal.

Delegates to the National Medical Convention—Drs. J. P. Gazzam, Thomas J. Gallaher, George D. Bruce, A. M. Pollock, Geo. McCook.

Delegates to the State Medical Convention—Drs. D. M'Meal, W. Draine, J. Carothers, J. M'Cracken, E. F. Williams, J. H. Wilson, J. W. Shaw, N. McDonald, J. H. O'Brien.

The following is a list of members of the Society:—

C. L. Armstrong, Wm. Addison, G. D. Bruce, H. R. Bell, Alexander Black, H. H. Breckenbridge, Jas. Carothers, John Dickson, Thomas Dickson, W. Draine, Samuel Dilworth, E. G. Edrington, Wm. M. Gray, Jos. P. Gazzam, J. W. Gustine, Thomas J. Gallaher, Jas. B. Herron, Wm. M. Herron, John S. Irwin, R. B. Mowry, John Martin, William M'K. Morgan, J. J. Myers, N. McDonald, G. McCook, F. McGrath, A. G. McCandles, D. M'Meal, J. McCracken, J. H. O'Brien, John Pollock, A. M. Pol-

lock, B. R. Palmer, J. W. Shaw, Jas. D. Shields, Jno. Wilson, J. H. Willson, C. F. Williams, Thos. Perkins.

THOS. J. GALLAHER,
Secretary.

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Army Medical Board.—The Army Medical Board, which convened in the city of New York, on the first day of December last (1853), for the examination of assistant surgeons for promotion, and of applicants for appointment in the medical staff of the army, adjourned *sine die*, on the 4th inst.—*Journ. Com.*

By this board the following assistant surgeons (named according to rank), were examined, and found qualified for promotion:—

Assistant Surgeons—William J. Sloan, Thomas C. Madison, Joseph K. Barnes, Levi H. Holden, Charles C. Keeney, Robert Murray, John F. Head, Israel Moses, John F. Hammond, Elisha J. Baily, George E. Cooper, Glover Perin.

The board also examined and approved the following candidates for appointment in the medical staff of the army: Robert Southgate, Virginia; Robert L. Brodie, South Carolina; Dewitt C. Peters, New York; Albert J. Myer, New York; Nathaniel S. Crowell, South Carolina; Joseph R. Smith, New York; James T. Ghiselin, Maryland; Pascal A. Quinan, Maryland; John F. Randolph, Louisiana; James C. Herndon, Virginia; George Taylor, Maryland; John J. Gaenslen, Virginia; George Hammond, Maryland; Wm. J. L. Engle, Florida; Bernard J. D. Irwin, New York.

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The Stethoscope.—This journal has been purchased by the Medical Society of Virginia, and will henceforth be the organ of that influential association. We regret to part with Dr. Gooch, who has always conducted this journal in an independent spirit, and boldly upheld the character of our profession, from the editorial corps. But we are convinced that its present able editors, Drs. T. P. Akinson, R. W. Haxall, Jas. Bolton, R. A. Lewis, A. T. B. Merritt, and J. G. Cabell, sustained by the influence of the medical profession of the Ancient Dominion. will enlarge its influence and utility, and that it will be an efficient agent in the diffusion of medical knowledge, and in maintaining the dignity and honor of the profession.

Medical Graduates in 1854:—

Medical School of Harvard University	26
University of the city of New York	112
New York Medical College	24
Jefferson Medical College	270
Philadelphia College of Medicine	17
Pennsylvania Medical College	39
Medical College of Georgia	46
Medical Department of Iowa University	13
Medical Department of Univ of Buffalo	24

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OBITUARY RECORD.—Died in Columbus, Ohio, on the 16th of January, 1854, in the 45th year of his age, RICHARD L. HOWARD, M. D., formerly editor of the *Ohio Medical and Surgical Journal*, and Professor of Surgery in Starling Medical College.

Died, on the 30th of October, 1853, in the 70th year of his age, JOHN ESTER COOKE, M.D. Dr. Cooke had acquired considerable reputation as a practitioner of medicine in Virginia, when he was induced to remove to Lexington, to occupy the chair of the Practice of Medicine, rendered vacant by the resignation of Dr. Drake. He subsequently filled the same chair in the Medical Institute of Louisville. In conjunction with Dr. Short, he originated, and for many years, edited the *Transylvania Journal of Medicine*. Dr. Cooke was a voluminous writer, latterly, we believe, principally on theological subjects.

FOREIGN INTELLIGENCE.

Coffee Leaves.—Dr. STENHOUSE states that the coffee leaves, when digested with boiling water, yielded a deep brown infusion, which in taste and odour closely resembled an infusion of a mixture of coffee and tea. On the addition of milk and sugar, it formed a very tolerable beverage, and as the roasted coffee-leaf can be imported into Europe for rather less than twopence per pound, the poorer classes, are likely to find it a very useful substitute for tea and coffee. Should a more moderate temperature be employed in drying the leaf, I think its flavour would be greatly improved.—*Philos. Magazine.*

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The Closing of the Burial-Grounds in London.—Besides the drainage of the soil, the removal of filth, and the adequate supply of pure waters—of living waters, as they have been well called—the entire cessation of the burial of the dead in churches

and churchyards in towns is an indispensable sanitary measure. The execution of this delicate and important measure has been intrusted by the Secretary of State to Dr. Sutherland; and the following statement shows that it has been prosecuted with no ordinary activity and success in the Metropolis: 1. Nearly every vault under churches and chapels has been or is under order for closing. 2. Burials have been prohibited within every church and chapel where they are known to have taken place. 3. One hundred and eighty-one burial-grounds, parochial or private, have been closed, or are under order for closing immediately. 4. 61 parochial or private burial-grounds are under notice or order for closing within a limited period, almost all within a few months. 5. Sixteen burial-grounds are partially closed, all the interments except those in private vaults and graves being prohibited. 6. Thirteen burial-grounds are closed under conditions for the protection of the public health. Lastly, nearly all the remaining grounds within the Metropolitan districts are now under inquiry.—*Registrar-General.*

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Deleteriousness of London Gas.—Dr. Letheby, in detailing before the Court of Sewers some of the results arrived at by him in his analytical researches on the gas supply of London, said: "In the course of the investigations which I have been making during the last two years, I find that some of the companies are supplying gas to this metropolis which in the course of a few years will tend to damage very much the atmosphere and the property in it, for it is so highly charged with sulphuret, that I am able to obtain 21 grains of oil of vitriol from 100 cubic feet of gas, which is getting into the atmosphere. Then, again, there is a quantity of ammonia, which holds in solution a large quantity of tar, and whenever there is a leakage in the streets, it oozes out. During the last fifty years, when it has got into the public roads, it has rendered the soil near to it so offensive that you can hardly move the pavement without doing a great deal of harm. What it may be in twenty years hence I cannot say, but I think it will be almost unsafe that you should then disturb the pavements at all. There is not a library in the metropolis, the books on the upper shelves of which are not tumbling to pieces from this cause; and there is no controlling power over the different companies, because the public are not aware of the presence of these impurities. I think nothing is so important as that the chemical qualities of the gas should, from time to time, be tested. Testing gas at the works is all nonsense, because after travelling two or three miles it undergoes such a change that there is no comparison between the quality of the gas supplied to the public and at the works. Whatever is destructive to inert matter must necessarily be more injurious to living matter."—*Dub. Medical Press.*

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The Heroic Conduct of the Surgeon of the "Tayleur."—Most of our readers have probably read in the newspapers an account of the heroic conduct of Mr. Cunningham, the surgeon of the ship "Tayleur," recently wrecked on the coast of England. The following just and beautiful tribute to his memory is from the pen of Dickens:—

"When these men perish at their work, they do not die with soldiers' laurels, but their names become connected with their last brave actions, and are told by Englishmen to one another in their households, so that in after years they receive honour by many a fireside. The surgeon of the *Tayleur* was conspicuous in his exertions for the reassurance and assistance of the shipwrecked passengers. We read at home, how, while struggling across a rope, with his own infant in his hands and teeth, he was plunged into the sea that dashed his child out of his hold; we read that he was seen, then, holding by the ship's side with a drowning woman in his arms, whose hair he was parting gently, and to whom he seemed to be speaking words of comfort. Her, too, the sea forced from his grasp; and we read that he was next seen perishing with his wife, during a vain struggle to save her. The noble man with his little family—his wife and two children—is swept away; he exists now only in the name of Robert Hannay Cunningham. But these are the men whom we want living among us; these are the energies that we need for the leavening of all society, and for the work of the world. These are not men to be sent out in emigrant ships to the bottom of the sea. Their memory, too, will be best honoured if we be indignantly aroused, for their sakes, to amend an evil."—*Lancet*, Feb. 25, 1854.